

*a2* ~~23~~ (Rewritten) The vehicle of claim 1, wherein each of said transducers generates only a single stream of data relating to the occupancy state of the seat and said processor means are arranged to accept only the single stream of data from each of said transducers such that the stream of data from each of said transducers is passed to said processor means without combining with another stream of data.

*a3* ~~35~~ (Rewritten) The vehicle of claim 1, wherein at least one of said transducers is a reclining angle detecting sensor for detecting a tilt angle of a back portion of the seat.

*b a4* ~~22~~ ~~25~~ (Rewritten) The vehicle of claim ~~1~~ <sup>4</sup>, wherein the trained pattern recognition algorithm is a neural network or neural fuzzy algorithm.

*a5* ~~29~~ ~~31~~ (Rewritten) A system for determining the occupancy state of a seat in a vehicle in combination with the vehicle, the system comprising:

a plurality of transducers arranged in the vehicle, each of said transducers generating only a single stream of data relating to the occupancy state of the seat, and

processor means coupled to said transducers for receiving only the single stream of data from each of said transducers such that the stream of data from each of said transducers is passed to said processor means from said transducer without combining with another stream of data and processing the streams of data to obtain an output indicative of the current occupancy state of the seat, said processor means comprising an algorithm created from a plurality of data sets, each of said data sets representing a different occupancy state of the seat and being formed from separate streams of data, each only from one of said transducers, while the seat is in that occupancy state,

said algorithm producing the output indicative of the current occupancy state of the seat upon inputting a data set representing the current occupancy state of the seat and being formed from separate streams of data, each only from one of said transducers.

*30* ~~32~~ (Rewritten) The vehicle of claim ~~31~~ <sup>29</sup>, wherein said algorithm is a neural network or neural fuzzy algorithm.

*a6* ~~32~~ ~~34~~ (Rewritten) The vehicle of claim ~~31~~ <sup>29</sup>, wherein one of said transducers is a reclining angle detecting sensor for detecting a tilt angle of a back portion of the seat.

49. (Rewritten) A system for determining the occupancy state of a seat in a vehicle in combination with the vehicle, the system comprising:

a7  
a plurality of transducers including at least two wave-receiving transducers arranged in the vehicle, each of said transducers providing data relating to the occupancy state of the seat, a first one of said wave-receiving transducers being arranged over a front portion of the seat or in front of the seat and a second one of said wave-receiving transducers being arranged over a rear portion of the seat or behind the seat, and

a processor coupled to said transducers for receiving data from said transducers and processing the data to obtain an output indicative of the current occupancy state of the seat, said processor comprising an algorithm which produces the output indicative of the current occupancy state of the seat upon inputting a data set representing the current occupancy state of the seat and being formed from data from said transducers.

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51. (Rewritten) The vehicle of claim 49, wherein said first and second wave-receiving transducers are arranged to receive ultrasonic waves.

52. (Rewritten) The vehicle of claim 49, wherein each of said transducers generates only a single stream of data relating to the occupancy state of the seat and said processor means are arranged to accept only the single stream of data from each of said transducers such that the stream of data from each of said transducers is passed to said processor means without combining with another stream of data.

53. (Rewritten) The vehicle of claim 49, wherein said first wave-receiving transducer is arranged on an instrument panel of the vehicle.

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61. (Rewritten) The vehicle of claim 49, wherein said plurality of transducers includes a reclining angle detecting sensor for detecting a tilt angle of a back portion of the seat.

✓  
Please add the following new claims.

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-- ~~28~~ 70. The vehicle of claim 1, wherein said plurality of transducers includes a wave-receiving transducer and a non-wave-receiving transducer.

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47 71. The vehicle of claim 31, wherein said plurality of transducers includes a wave-receiving transducer and a non-wave-receiving transducer.

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<sup>29</sup>  
The vehicle of claim ~~31~~, wherein said algorithm is a trained pattern recognition algorithm.

66~~1~~

A system for determining the occupancy state of a seat in a vehicle in combination with the vehicle, the system comprising:

a plurality of transducers including at least two wave-receiving transducers, each of said transducers providing data relating to the occupancy state of the seat, a first one of said wave-receiving transducers being arranged on a top of a dashboard or instrument panel of the vehicle and a second one of said wave-receiving transducers being arranged at a different location in the vehicle such that an axis connecting said first and second wave-receiving transducers passes through a volume above the seat; and

a processor coupled to said transducers for receiving data from said transducers and processing the data to obtain an output indicative of the current occupancy state of the seat, said processor comprising an algorithm which produces the output indicative of the current occupancy state of the seat upon inputting a data set representing the current occupancy state of the seat and being formed from data from said transducers.

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<sup>66</sup>  
The vehicle of claim ~~73~~, wherein each of said transducers generates only a single stream of data relating to the occupancy state of the seat and said processor means are arranged to accept only the single stream of data from each of said transducers such that the stream of data from each of said transducers is passed to said processor means without combining with another stream of data.

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<sup>66</sup>  
The vehicle of claim ~~73~~, wherein said second wave-receiving transducer is arranged on a ceiling of the vehicle.

69~~2~~

A system for determining the occupancy state of a seat in a vehicle in combination with the vehicle, the system comprising:

a plurality of transducers arranged in the vehicle, each of said transducers providing data relating to the occupancy state of the seat, at least one of said transducers being a capacitive or electric field sensor; and

processor means coupled to said transducers for receiving the data from said transducers and processing the data to obtain an output indicative of the current occupancy state of the seat, said processor means comprising an algorithm created from a plurality of data sets, each of said data sets representing a